

what claims to be a mathematical demonstration that the standard deviation is $r\sigma_0$: It seems therefor rather doubtful whether the conditional argument "If, as frequently happens, B' is practically zero, then" Dines' Theorem would hold, can be said "to dispose of Walker's objection to Dines' Theorem."

DISCUSSION

There seems to me to be, in reality, no conflict between the ideas of Sir Gilbert Walker and those which I tried to express in my note to which he refers: That the ratio of the S. D.'s of the two series given by Walker should be r (if, as Walker assumes, b is independent of x_1) is, it will be found, stated in my note; it is also clear from my equation (2) that the mean of x_0/σ_0 will be r times the mean of x_1/σ_1 . Any argument as to whether we should use the S. D. or its square as a measure or index of variation is futile; logically, we are free to use any measure we please, though in practise a particular one may be much more convenient for some purposes than any other; different measures will result in different theorems, but these can not be inconsistent, nor, as Walker rightly insists, alter any facts—nor will they, if strict attention be given to the adopted meaning of the terms used. For *certain purposes*, a discussion of which has not entered into these notes, Krichewsky found the square of the S. D. more convenient than the S. D. itself.

The theorem given by Walker in the last sentence of the first paragraph of section 3 of his note above is

likewise explicitly accepted in my note; but the inconsistency implied by Walker does not exist, because the remainder of the S. D. is not the same thing as the S. D. of the remainder, and

$$\sigma_0 \equiv r\sigma_0 + (1-r)\sigma_0 = \sqrt{(r\sigma_0)^2 + [\sigma_0(1-r^2)]^2}.$$

In the second paragraph of section 3, Walker, by overlooking some essential phrases and italicized words, changes the intended sense of my statements to which he refers, and fails to reproduce the point I tried to make.

As F. J. W. Whipple observes in a recent note on this subject (*Meteorological Magazine*, 63, 12-14, 1928), the difficulty is in establishing that certain enunciated rules are equivalent to certain given equations. It was my principal object to establish several equations, which together result in several consistent theorems relating to different aspects of the question under discussion; which of these equations or theorems is most useful in appraising the value of a correlation coefficient doubtless depends on the purpose for which the coefficient is to be used.—*Edgar W. Woolard*.

NOTE

A copy of the above discussion was submitted to Sir Gilbert who replies as follows:

"I am sorry to learn from Mr. Woolard's remarks that I have at times failed to catch the meaning that he intended to convey, and glad that there is no fundamental difference between us.—*Gilbert Walker*."

METEOROLOGICAL SUMMARY FOR SOUTHERN SOUTH AMERICA, FEBRUARY, 1928

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During February the atmospheric circulation continued to show very moderate intensity; however, storms of some importance were beginning to appear over the southern region.

Two cyclonic storms are to be mentioned as important: That of the 13th-16th, which crossed the far southern region and was accompanied by generally foul weather in the southern zone with heavy winds and rain north to the coast of Arauco; and that of the 27th-29th, which passed over the region visited by the earlier storm and likewise brought unsettled weather and rain.

At Valdivia, which is one of the rainiest points on the western coast of South America, the total monthly precipitation was 3.84 inches [normal 2.80 inches—*Trans-*

lator] and the maximum amount in 24 hours, 2.16 inches on the 15th.

The anticyclones causing the periods of fine, settled weather were charted through the following periods: 2d to 10th, 9th to 12th, 16th to 20th, and 20th to 26th. The second HIGH remained stationary over Chiloe; the others moved from Chiloe toward northern Argentina.

In general temperatures were moderate in the central zone of Chile, but about the 22d there was a period of very warm weather with maximum temperatures around 91°-92° F. On the central coast there was considerable cloudiness and frequent occurrences of early morning fog.—*Transl. by W. W. R.*